ABSTRACT

An object of the invention is to significantly reduce generation of polishing flaws in a surface of a semiconductor device without affecting an advantage of fumed silica, i.e., a high polishing speed even when fumed silica is contained as a polishing agent. A wafer (3) is placed on a pad (2) stuck to a polishing bed (1), and with a pressure head (4) applying a constant weight to the wafer (3), the pad (2) and the pressure head (4) are rotated to polish the wafer (3). At the time, as a polishing composition (5) supplied onto the pad (2), there is used a polishing composition that is an aqueous dispersion solution of fumed silica and that contains 15% by volume or more of fumed silica particles having a particle diameter of 100 nm or less based on a total amount of the fumed silica particles. In the composition, agglomeration of the fumed silica owing to an external load and/or long storage hardly occurs and therefore, the polishing flaw, especially a polishing flaw having a diameter of 0.2 μm or more, is hardly generated in the surface of the semiconductor, and in addition, a polishing speed is high.